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# SOME QUARANTINE REFLECTIONS

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*Editors N. O. Med. and Surg. Journal:*

GENTLEMEN—In the last number of the JOURNAL I read, with much interest, an editorial description of a visit to the “*Upper*” and “*Lower Quarantine Stations*” below the city, and of the improvements being made.

I was particularly impressed with the manifest spirit of perfect fairness of the writer, who pointed out defects and attributed them to their proper cause, *the incipency of effort*. He recognized and gave full value to the essential fact that a complete revolution was being wrought in the substitution of “*Maritime Sanitation*,” in its scientific application, in the place of “*Quarantine*” heretofore in use. The detention of a vessel a number of days, determined by the notion or whim of the health authorities, with a mere show and make-shift of sanitation is what we properly understand by “*Quarantine*,” as generally exhibited. Properly, it is forty days detention, and the detention element is about the only thing in which reliance is actually reposed. The sanitation element has generally been too flimsy to command the attention of even the credulous and the most ignorant.

(Parenthetically, I will mention that I was much amused recently to find myself arraigned in one of our daily papers, by an anonymous writer, *as a non-believer* in quarantine, and, therefore, by legal statute debarred from membership

in the Board of Health. It is quite certain, if I were to fritter my time paying attention to every fat-witted scribbler who chose to take a sly shot at me under cover of an *alias*, I would be debarred from attending to my official business. About this particular assault, however, there is something so refreshingly simple, so child-like and idiotic, as to command my regard. To find myself singled out as one whose official existence is in contempt of law because he is an unbeliever in a system of outrage on common-sense, on the hopes and expectations of the people and on commerce; a system that has been systematic in failure only, begotten of the lowest ignorance, and one which last season cost the people of Naples thousands of lives; because I do not believe in the quarantine of this doltish complainant, I am, forsooth, in violation of the law, notwithstanding the fact, that we do hold ships and persons at quarantine during a period of sanitary preparation and observation. The amusing part is that I, alone, am cited as an unbeliever in quarantine and, therefore, an offender, while my predecessors, who came out openly and declared their complete loss of faith by the abandonment of quarantine and by declaring in its stead absolute non-intercourse, were not mentioned. Such an omission seems not only invidious and unfair, but, if unintentional, bears testimony of exceptional mental opacity.) Pardon this digression!

No inventive idea has ever leaped from the brain fully grown, armed and equipped; but, on the contrary, was born and grew by a regular and most natural process of development. It is a universal experience, that many theoretical suggestions, perfectly simple and wonderfully ingenious on paper, are found in practice unnecessary or impossible and in either case absurd; while, on the other hand, in the elaborations of practical experiment unlooked for conditions present themselves and exigencies arise such as tax the utmost ingenuity to meet.

I say it with great deference, but convinced of its truth, that three weeks under a July sun, spent in climbing through every conceivable kind of architecture in sea-going vessels,



adapting means to ends and all to the great end of thoroughly cleansing each one of any contagion that might possibly be contained in it, will do more to enlarge one's ideas of maritime sanitation as an exact science and of its actual requirements than any number of years devoted to theoretical speculation as to what might or ought to be done, particularly, when the one speculating on hypothetical abstractions knows as much about the difference between a bark and a barkentine, a brig and a ship, and of the construction of the interior of a steamship, as he does of the chemical constituents of the mocn.

This is a general remark and not aimed at you, my dear friends, the editors of this Journal.

In a recent number of one of our Journals the editor in his intense desire to strip me of any claim to originality informs me, rebukingly, referring to sulphurous acid fumes, that ships have been *disinfected by steam* ever since 1848.

Such a statement from a country bumpkin would have been silly, but coming in an editorial from one residing in the principal sea-port of the Continent, enjoying an abundance of practical sense and familiar with the construction of ships, I hardly know what to make of it. As a matter of truth, steam cannot be applied as an effectual disinfecting agent in ships, and steam has not been the method of disinfection in any port since 1848 or any other time.

Some one may have tampered with it, but did not disinfect.

There is a strong disposition to suggest all kinds of agents rather than adhere to and test those we are using; anything to make a change, it matters not for better or for worse; chlorine, volatilized iodine or mercury, or bromine. All of these theoretical suggestions come trippingly without a moment's reflection touching actual practice, first, as to relative germicidal efficiency; second, as to availability and economy; third, as to effect on cargo, baggage, apparel, etc.; fourth, as to effect on human beings, subjected repeatedly to their influence.

In using the bi-chloride of mercury, we know that we

have one of the most powerful of all germicidal agents.

Practical test in municipal disinfection and in quarantine has demonstrated its absolute freedom from injury to those having to do with it.

In the operation of maritime sanitation, our employeés have been wet with the solution from head to heels, and for hours at a time, without having as yet shown the slightest evidence of mercurialization.

The clothing and other baggage of passengers and crew have been soaked in it without the slightest injury to persons or fabrics. Injury to the latter has always been due to the water and not to the chemical.

The decks, cabins, bunks and every available part of vessels have been freely drenched with the solution without injury.

The sulphurous acid gas, used as the displacing agent of the atmosphere below-deck, has long since proved itself the most reliable gaseous disinfectant and the least injurious to cargo of any yet tried.

As applied in our quarantine, it is like turning loose a volcano into the hold of a ship.

The amount of sulphur used on any one vessel varies from one hundred and fifty to nearly three hundred pounds, so applied as to displace with immense force every particle of air contained in the bilge, between the planking, or skin, and ceiling, in all parts of the cargo and dunnage.

So searching are these fumes under the operation of the law of the diffusion of gases, favored by high pressure and rapid motion of currents, that a bowl of rain-water, buried in the heart of a cargo of coffee seventy-five feet distant from the conveying hose, was found distinctly impregnated with sulphurous acid. The effect upon the coffee itself, when dry and in good condition, was not observable. By getting the hose well into the dunnage, we can now treat a cargo of coffee with a thoroughness never before contemplated and without the extra expense to shippers or consignees of a dollar, as against from five hundred to eighteen hundred dollars in times past, when



quarantine treatment involved discharging and reloading cargo, and the employment of a great gang of stevedores, barges, tugs, etc.; and even then the disinfection was utterly worthless, as proven by the subsequent appearance of yellow fever on the ship in port.

If recent observations on the destructive influence of mineral acids, even greatly diluted, on the cholera virus are true, then we have in this agent the most efficient adjunct to the mercuric solution.

As an instance of unexpected difficulties met with in practice, the amalgamating powers of the mercury salt on pumps, fitting of hose, nozzles, spray-roses, etc., presented for a while a most formidable difficulty, finally overcome in a simple and economical way.

The rapidly destructive effect of the heated sulphurous acid gas upon all flexible hose of organic composition compelled us to adopt the galvanized iron tubing, heavy and excessively awkward in use.

This I have completely overcome by having had manufactured a close-woven, twilled or corduroyed, asbestos cloth. While a perfect non-conductor of heat, this material is abundantly light and is proof against acids or heat.

We have had to pay quite dearly for this and other similar experience, but have gained a deal of knowledge, neither dreamed of in the editorial sanctum nor down in the books.

The superheating chamber we have discontinued as such, now using it as a drying-room. We discontinued it for the same reason that one would discountenance running a man through with a bayonet after having shot his head off with a rifle-ball.

If the bi-chloride of mercury is an effective germicide, to saturate the clothing, bedding etc., in a solution of it is surely sufficient.

In this connection it is important to consider the fact, that, although our solution is one part to one thousand of water and, therefore, weak, that as the supersaturated

articles become dry the germicide presents itself in a constantly increasing concentration. When one half the water escapes by evaporation the remaining portion gives a strength of one to five hundred, when nine-tenths of water are lost the concentration is one to one hundred, and finally the mercuric salt alone is left. Any existing germ must come in contact with the germicidal agent eventually, not in the dilution of one in one thousand, but in its absolute concentration.

This fact can be ocularly demonstrated by flooding a sheet of plate-glass with the above solution. Upon drying a distinct film of the salt will mar the lustre of the polished surface.

It is pleasing to note that all such germs as bed-bugs and allied occupants of sailors' duds instantly curl up in the most abject resignation and die before the concentration process has commenced.

The rats and roaches are attended to by the sulphurous fumes. The effect is one of unsparing destruction. The number of dead rats discovered is sometimes marvelous.

The annihilation of vermin affords a grim satisfaction to ship-captains, reconciling them to many annoyances incident to the treatment.

Finally, I will mention, among other elucidations of quarantine experience, that we will be able to reduce our running expenses several hundred dollars a month by establishing our entire apparatus on a truck running on a tramway laid parallel with the outer edge of the wharf.

By this means we will no longer require a tug, as now in use, and will economize in many costly particulars.

In looking at the new quarantine, it is necessary to bear in mind that it was rushed into existence in a very few days time, and everything had to be created without experimental introductory of any kind.

In view of these facts, we can all partake of the astonishment that so much has been accomplished so satisfactorily in so short a space of time, a sentiment kindly expressed by yourselves and one in which I heartily concur.



Very much of this success is due to the administrative ability and excellent judgment of Dr. Thomas Y. Aby, the resident physician in charge of the entire quarantine system. He has directed and encouraged his assistants and employés, and all have labored faithfully to secure that success which for its achievement depended entirely upon such honest and energetic work.

The energy and devotion to public service displayed by the quarantine committee of the Board, Messrs. John Barr, Joseph A. Shakespeare and Doctor L. F. Salomon, and by Col. John W. Glenn, who planned and supervised the construction of buildings, could not have been excelled; and all honor is due them for having accomplished in the face of most trying obstacles the emancipation of the commerce of the Mississippi Valley through the Gulf as incidental to the still higher service of having given the only possible rational guarantee against the introduction of pestilence by that channel; a quarantine infinitely higher than any security offered by non-intercourse, a barbarous makeshift, encouraged by dishonest motives of repression on the part of hostile commercial and railroad interests to close up and to destroy legitimate currents of trade.

When New Orleans, or the people of Louisiana, allow any little doctor in a National or State Bureau to put his thumb on the great aorta which carries the very life-current of this people, to press upon it and shut it off, they will find this city relegated to the insignificance of an interior town, a mere depot and factorage centre, and the State shorn of all hope of a high destiny.

The principle of non-intercourse is false in its pretensions of protection in that it offers a premium to evasion, is unjust in its discrimination in favor of the stronger against the weaker, of the rich against the poor, and is essentially dishonest in the true inwardness of all its suggestion.

Very truly yours,

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